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How e-cigarettes could save lives

By Sally Satel, Published: February 14

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Should electronic cigarettes be regulated like tobacco products, emblazoned with warnings and subject to tight marketing restrictions? Those are among the questions before the Food and Drug Administration as it decides in the coming weeks how to handle the battery-powered cigarette mimics that have become a $1.5 billion business in the United States.

Groups promoting intensive regulation include the American Lung Association and the Campaign for Tobacco-Free Kids. They worry that the health risks haven't been fully established and that e-cigarettes will make smoking commonplace again, especially among teens. They are quick to push back in response to anything that might make e-cigarettes more attractive, such as the NJOY King ad that aired during the Super Bowl or when actors Leonardo DiCaprio and Julia Louis-Dreyfus were shown "vaping" at the Golden Globes.

A surgeon general's report released last month, on the 50th anniversary of the office's first warning about the dangers of smoking, had little to say about e-cigarettes. Its suggestions for further reducing tobacco use were familiar, including: increase taxes on cigarettes, prohibit indoor smoking, launch media campaigns and reduce the nicotine content of cigarettes.

E-cigarettes, however, could be what we need to knock the U.S. smoking rate from a stubborn 18 percent to the government's goal of 12 percent by 2020. We should not only tolerate them but encourage their use.

Although critics stress the need for more research, we can say with high confidence that e-cigarettes are far safer than smoking. No tobacco leaves are combusted, so they don't release the tars and gases that lead to cancer and other smoking-related diseases. Instead, a heating element converts a liquid solution into an aerosol that users exhale as a white plume.

The solution comes in varying concentrations of nicotine — from high (36 mg per milliliter of liquid) to zero — to help people wean themselves off cigarettes, as well as e-cigarettes, and the addictive stimulant in them. But even if people continue using electronic cigarettes with some nicotine, regular exposure has generally benign effects in healthy people, and the FDA has approved the extended use of nicotine gums, patches and lozenges.

The other main ingredients in e-cigarettes are propylene glycol and glycerin. These are generally regarded as harmless — they're found in toothpaste, hand sanitizer, asthma inhalers, and many other FDA-approved foods, cosmetics and pharmaceuticals. There are also traces of nitrosamines, known carcinogens, but they are present at levels comparable to the patch and at far lower concentrations than in regular cigarettes — 500- to 1,400-fold lower. Cadmium, lead and nickel may be there, too, but in amounts and forms considered nontoxic.

“Few, if any, chemicals at levels detected in electronic cigarettes raise serious health concerns,” a 2011study in the Journal of Health Policy determined. “A preponderance of the available evidence shows [e-cigarettes] to be much safer than tobacco cigarettes and comparable in toxicity to conventional nicotine replacement products.”

The potential for e-cigarettes to help people quit smoking is encouraging. Yet so far there has been little research on their effectiveness. A study published in the Lancet in November concluded that e-cigarettes, with or without nicotine, were as effective as nicotine patches for helping smokers quit. Granted, patches have had a disappointing record in helping people stay off cigarettes for more than a few months. But there are reasons to think that e-cigarettes would be even more effective outside the laboratory.

Participants in the Lancet study were randomly assigned to nicotine e-cigarettes, patches or placebo e-cigarettes. In the real world, of course, people get to choose. And e-cigarettes have several advantages over patches and gums. For one, they provide a quicker fix, because the pulmonary route is the fastest practical way to deliver nicotine to the brain. They also offer visual, tactile and gestural similiarities to traditional cigarettes.

Reporter Megan McArdle tested the comparison for a Bloomberg Businessweek article this month: “After I’d put it together, I had something surprisingly close to one of the cigarettes I used to smoke. The mentholated tobacco flavor rolled sinuously over my tongue, hit the back of my throat in an unctuously familiar cloud, and rushed through my capillaries, buzzing along my dormant nicotine receptors. The only thing missing was the unpleasant clawing feeling in my chest as my lungs begged me not to pollute them with tar and soot.”

This is where anti-smoking advocates get worried about e-cigarettes being too attractive and encouraging people — especially young people — to become addicted to nicotine and, in some cases, to progress to smoking. The Centers for Disease Control and Prevention stoked concerns with data released in September showing that 1.78 million middle and high school students had tried e-cigarettes and that one in fivemiddle school students who reported trying them said they hadn’t tried traditional cigarettes. “This raises concern that there may be young people for whom e-cigarettes could be an entry point to use of conventional tobacco products, including cigarettes,” the CDC concluded.

According to that same CDC study, however, an extremely small percentage of teenagers use e-cigarettes regularly — only 2.8 percent of high school students reported using one in the previous 30 days in 2012. And while that number is rising — it was 1.5 percent in 2011 — teenage cigarette smoking rates are at record lows. That might suggest that increased exposure to e-cigarettes isn’t encouraging more people to smoke. But the numbers are so small that it’s too early to make definitive claims about the relationship between teen vaping and smoking.

Yes, we still need research on the long-term health and behavioral impacts of e-cigarettes. Brad Rodu, a pathologist at the University of Louisville, offers an apt analogy between electronic cigarettes and cellphones. When cellphones became popular in the late ’90s, there were no data on their long-term safety. As it turns out, the risk of a brain tumor with prolonged cellphone use is not zero, but it is very small and of uncertain health significance.

In the case of e-cigarettes, Rodu says that “at least a decade of continued use by thousands of users would need to transpire before confident assessments could be conducted.” Were the FDA to ban e-cigarette marketing until then, the promise of vaping would be put on hold. Meanwhile, millions of smokers who might otherwise switch would keep buying tobacco products. “We can’t say that decades of e-cigarette

use will be perfectly safe," Rodu told me, "but for cigarette users, we are sure that smoke is thousands of times worse."

The FDA should call for reliable, informative labeling and safe manufacturing standards for e-cigarettes. It should also allay concerns about potential gateway use and youth addiction to nicotine by banning the marketing and sale of e-cigarettes to minors. It should not be heavyhanded in restricting marketing and sales to adults.

Instead, promoting electronic cigarettes to smokers should be a public health priority. Given that the direct medical costs of smoking are estimated to be more than $130 billion per year, along with $150 billion annually in productivity losses from premature deaths, getting more smokers to switch would result in significant cost savings — as well as almost half a million lives saved each year.

We should make e-cigarettes accessible to smokers by eschewing hefty taxes, if we tax them at all, and offering free samples and starter kits. Those kits, which contain a battery, a charger and nicotine-liquid cartridges, typically run between $30 and $90. To reduce the hurdle to initiation, any payer of smoking-related costs — health insurers, Veterans Affairs medical centers, companies that offer smoking-cessation programs for their employees, Medicare, Medicaid — should make the starter kits available gratis. Users should have to pay for their own replacement cartridges, but those are much cheaper than cigarette packs.

Also, we should allow and welcome public vaping in adult environments such as bars, restaurants and workplaces. Vapers would serve as visual prompts for smokers to ask about vaping and, ideally, ditch traditional cigarettes and take up electronic ones instead.

It may be hard for anti-smoking activists to feel at ease with e-cigarettes in light of their view that traditional cigarette makers have long downplayed the health dangers of their product. This perception has generated distrust of anything remotely resembling the act of smoking. It doesn't help that major tobacco companies are now investing in e-cigarettes.

But if we embrace electronic cigarettes as a way for smokers to either kick their nicotine addictions or, at least, obtain nicotine in a safer way, they could help instigate the wave of smoking cessation that anti-smoking activists — and all of us — are hoping for.

Available at: http://www.washingtonpost.com/opinions/how-e-cigarettes-could-save-lives/2014/02/14/31bce704-8d18-11e3-98ab-fe5228217bd1_story.html#